



Introduction

In the 1950s, researchers had discovered all the amino acids that made up proteins. By the 1960s, feedstuff producers could use synthetic amino acids, especially methionine and lysine as daily feedstuff supplements. And in the 1990s, the supplements could vary with the actual digestibility and feeding conditions of live stocks. Now a more accurate and balanced diet is a possible for animals with specific genotype under specific conditions.

The better the balance of essential amino acids in forage is, the better the growth of feeding animals will be. There are more than 300 kinds of natural amino acids, among which 8 essential amino acids cannot be synthesized by vertebrates themselves, although they play an important role during growth.

Benefits of adding amino acids to forage:

Reduce the cost of feedstuff: The amino acid supplement is added as a trace component, which can replace the overused protein feedstuff.

Meet animal needs, promote animal growth, improve amino acid balance, increase feed utilization, and save protein resources. Adding restricted amino acids into foraged can improve the balance of amino acids in the diet, thereby giving full play to the effects of other

amino acids. It is not necessary to increase the protein content to meet the animal's need for amino acids, and the protein resources are saved, the feed utilization is improved, the animal growth is promoted.

Production practice and feeding experiments have proved that lysine and methionine are usually restrictive amino acids for livestock and poultry. A small amount of addition can promote livestock and poultry production and improve feed utilization.

Improving meat quality: Adding lysine to forage can improve carcass quality and increase lean meat rate.

Feed research and development of animal husbandry have to solve the feed problem first. How to make feed that is cheap, easy to obtain, and can promote the growth and development of animals has become an important topic in feed research. Lysine can accelerate the weight gain of pigs and broilers, and methionine can increase the egg production of hens. Therefore, amino acid analyzer should be used to determine their content in the research of feed formula in order to adjust the formula or add feed additives. At present, additives used to prepare mixed feed include lysine, methionine, glycine, glutamic acid, alanine, tryptophan, and other amino acids, which are added according to different needs.

National Standard: GB/T18246-2000

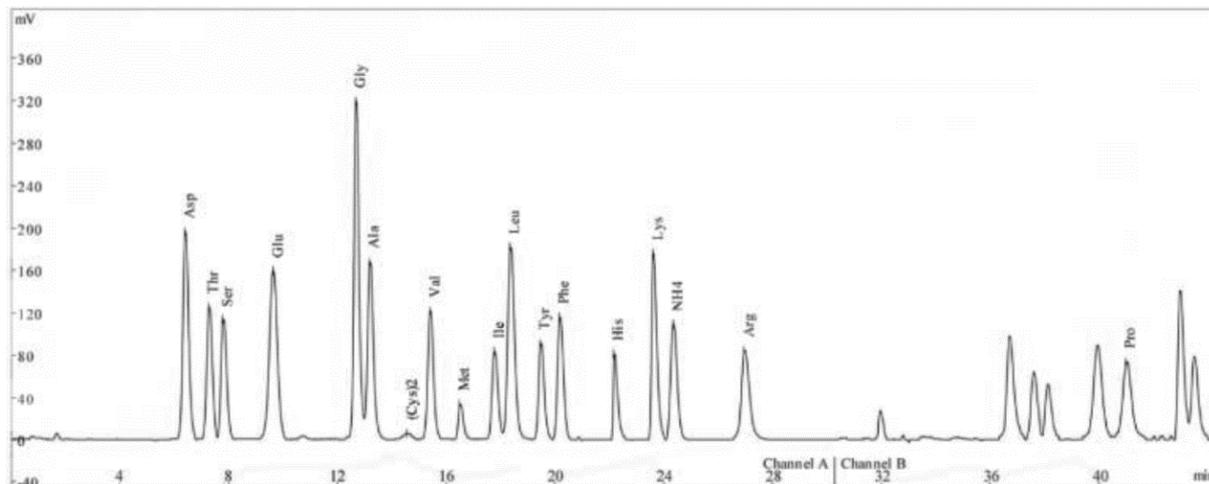


Figure 1: The amino acids contained in the acid hydrolysis samples were separated using a sodium cation exchange column and then derivatized with ninhydrin. The detection was performed at 440 nm and 570 nm. The concentrations of the individual amino acids were determined using a known concentration of a standard amino acid mixture.

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